Jasper

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in and relating to Fixing or Fastening Screws

I, CHRISTIAAN HENDRIK JASPER, of No. 36a, Schoonebergerweg, Rotterdam, The Netherlands, of the Dutch nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to an improved fixing or fastening screw for clamping objects close to or against any object into which it may be driven.

It has already been proposed to provide a wood screw or any other kind of screw having a screw-threaded shank, such for example as a screw-hook, a screw-ring, a screw-eye or a screw-attachment, with a straight or spiral groove extending through at least part of the length of the screw-threaded shank, so as to make the screw self-tapping.

According to the present invention, however, a fixing or fastening screw is provided which comprises a shank, part of which is substantially cylindrical and part screw-threaded, the screw-threaded part being tapered at one of its ends to form a reduced leading end for the screw and being formed with at least one substantially longitudinal slot to render the screw self-tapping, and clamping means provided on the substantially cylindrical part of the shank, the clamping means being capable of operation without screwing or unscrewing the fixing or fastening screw as a whole.

In order that the invention may be more fully understood reference is had to the accompanying drawing in which:—

Fig. 1 is a side view of a fixing or fastening screw in which the clamping means has the form of a threaded end portion provided with a nut,

Fig. 2 is a side view of a fixing or fastening screw in which the clamping means has the form of a two part adjustable ring or eye,

Fig. 3 is a longitudinal sectional view of a fixing or fastening screw in which the clamping means has the form of a metal screw adapted to be screwed into a tapped hole in the counter-sunk head and shank of a wood-screw, and

Fig. 4 is a partial longitudinal section of the shank of a fixing or fastening screw illustrating an optional detail. Any form of clamping means according to the present invention may be provided at the head of the shank where it is shown broken away.

Referring to Fig. 1, part of the shank S is cylindrical and part screw-threaded, the screw-threaded part of the shank being tapered to form the point of the screw. Three longitudinal slots 6, only one of which can be seen in the drawing, extend practically the whole length of the threaded part. The clamping means consists of the threaded portion 9 of the shank on which is screwed the nut 8. Operation of the clamping means is effected by screwing and unscrewing the nut 8.

Referring to Fig. 2, the screw-threaded part of the shank is tapered as in Fig. 1, but the slots, only one of which can be seen from the drawing, are somewhat longer. The head of the shank is provided with clamping means in the form of a two part ring or eye, part 10 of which is integral with the shank and part 11 detachably secured to the shank by means of a transversely arranged metal-screw 12. The clamping means 10, 11 are suitable for fixing a pipe or the like close to a wall 13 into which the screw has been driven after a bore hole 14 has been drilled therein. Operation of the clamping means is effected by screwing and unscrewing the screw 12.

Referring to Fig. 3, the shank S is tapered and slotted as already described. The screw is shown driven into a bore 14 in the wall 13, the head which is similar to that of a wood screw, being countersunk. An object 16 is shown fixed adjacent the wall 13 by means of a metal-screw 15 which is driven into a central threaded bore in the head of the shank S. The clamping means is operated to clamp objects of different thickness by screwing and unscrewing the screw 15.

The slots 6 allow the screw to act as a screw-tap and actually to cut the female thread for receiving the male thread of the screw. And further these slots serve to discharge from the bore hole 14 part

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of the dust or grit produced while the screw is being driven in.

Referring to Fig. 4, S is the shank of a fixing or fastening screw according to the present invention. The head of the shank S is shown broken away, but it should be understood that the head is provided with adjustable clamping means such as for example those already described with reference to the previous Figures. The screw-threaded part of the shank S is provided with an axial bore hole 17 opening at its leading end and communicating with the slots 6 through short transverse passages 18, so that part of the dust or grit can be discharged through said passages and said hole 17 into the bottom end of the bore 14.

It will be understood that the slot or slots 6 need not be straight, but may be helically wound in known manner, and that said slot or slots may extend either through the full length, or through only part of the length of the threaded portion of the screw.

Although the threaded portions of the shanks of the screws illustrated are similar to those of wood screws, it goes without saying that the shanks may be threaded in accordance with any other adopted or approved system.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A fixing or fastening screw for clamping objects in position close to or against any object into which it may be driven, comprising a shank, part of which is substantially cylindrical and part screw-threaded, said screw-threaded part being tapered at one of its ends to form a reduced leading end for the screw and being formed with at least one substantially longitudinal slot to render the screw self-tapping, and clamping means provided on the substantially cylindrical part of the shank, said clamping means being capable of operation without screwing or unscrewing the fixing or fastening screw as a whole.

2. A fixing or fastening screw as claimed in claim 1, wherein the clamping means consists of a nut screwed on the end of the shank remote from the tapered part.

3. A fixing or fastening screw as claimed in claim 1, wherein the clamping means consists of a two-part ring or eye, part of which is formed integrally with the shank, while the other part is detachably secured to the shank by means of a transverse metal-screw.

4. A fixing or fastening screw as claimed in claim 1, wherein the clamping means consists of a metal-screw adapted to be screwed into an axial screw-threaded bore formed in the end of the shank remote from the tapered part.

5. A fixing or fastening screw as claimed in any one of the preceding claims, wherein the shank is formed with an axial bore which opens at the leading end of the screw and communicates through transverse passages with the longitudinal slot or slots formed in the screw-threaded part of the shank.

Dated this 20th day of November, 1935.
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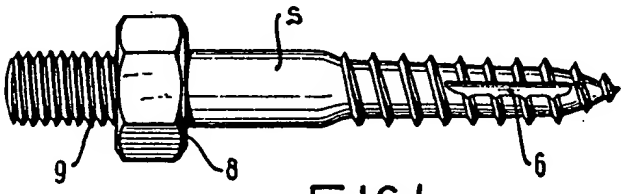

FIG. 1.

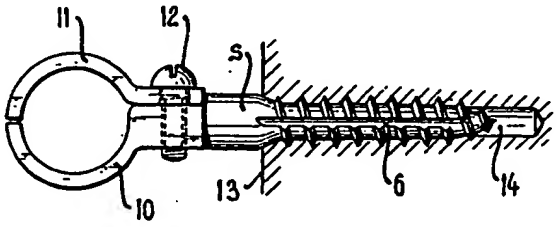

FIG. 2

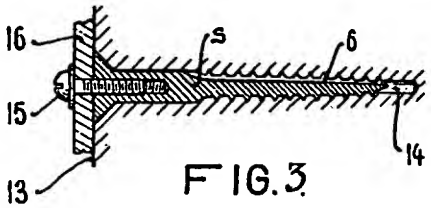

FIG. 3.

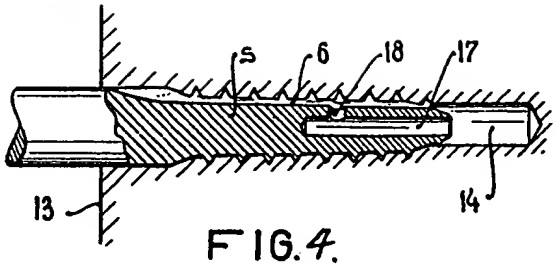

FIG. 4.

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